

PATENT SPECIFICATION

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(54) SHAPING OF SEALING STRIPS

(71) We, ETABLISSEMENTS MESNEL, a Societe Anonyme, organised under the laws of France, of 28 Rue de Bellevue, Colombes 92, France, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention concerns a method of shaping a sealing strip for a bodywork member.

Methods of shaping extruded sealing strips are already known, for example of the type described in our French Patent No. 2133107 deposited on 8th April, 1971, but these methods have certain disadvantages and, more especially, they only allow a limited productivity.

20 An object of the invention is to provide an improved method of shaping a sealing strip.

With this object in view, the present invention provides a method of shaping a composite sealing strip having a fixing part and a sealing part of vulcanised elastomer having a tubular body and a sealing lip, comprising bending the strip to cause the lip to splay or spread, enclosing the bend in a complementary mould, applying heat, and supplying fluid elastomer to a cavity of the mould to cause it to become moulded onto the sealing lip to form an extension at the bend.

35 The invention will be described further, by way of example, with reference to the accompanying drawings, in which:—

Fig. 1 shows a sealing strip shaped in accordance with a preferred method of the invention, and intended for forming a sealing joint on a car body;

Fig. 2 is a section along the line A-A of Fig. 1;

Fig. 3 shows a second sealing strip 45 shaped in accordance with the preferred

method of the invention, and

Fig. 4 shows, diagrammatically, mould section, for performance of the preferred shaping method of the invention.

The drawings show a customary composite sealing strip for forming a seal about the periphery of a car body member. The strip has a fixing part 1 and a sealing part 2. The fixing part 1 is constituted by a deformable U-section metal frame 55 around which there is extruded a fixing head of plastics material. The sealing part 2 is a tubular element which is attached to the fixing part 1 and which is formed by extrusion. The part 2 has a sealing lip 3.

To shape such a composite strip to the radii of curvature in the angles of a car body member, a mould of the type shown diagrammatically in Fig. 4 is used.

The mould comprises a first, upper, 65 mould part, an intermediate mould part (meeting the upper mould part at a separation plane 4) and a second lower, mould part (meeting the intermediate mould part at a separation plane), a contour plate 6 70 being sandwiched between the intermediate mould part and the second mould part. The second mould part has an insulating insert 7. A cavity of the mould is defined by the first, upper, mould part, the intermediate mould part, and a sealing strip in the mould ready for treatment.

The contour plate 6 has an edge 9 whose outer contour reproduces that of the car body angle that is to be covered by the shaped sealing strip. When the mould is opened along the separation plane 5, it is possible to cause the fixing part 1 to overlap this edge 9 of the contour plate 6, which forms a template to shape it and the tubular sealing part to the desired radius of curvature. After closure of the mould any deformation of the sealing part 2 resulting from this curvature is obviated, for example by sealing its ends and injecting 90

hot air into its interior. The pressure of the air can be 0.5 to 1.5 bar. By heating the mould and introducing material compatible with the material of the part through aperture 8, an extension 10 can be moulded onto the part 2 to become integral therewith.

In this operation, the thermally-insulating inserts 7, (advantageously of phenolic resin reinforced with textile fibres of the kind known commercially under the Trade Mark CELLERON), serves to limit the rise in temperature of the U-shaped fixing part 1. It is important that the fixing part 1 does not become to overheated, because it is usually of polyvinyl chloride, which will not withstand the temperature which is necessary for moulding the extension 10 of elastomer.

In the case of small radii of curvature, i.e. in forming angles less than 80°, folds or creases generally appear in the compressed portion of the part 2. For this reason it is advantageous to avoid this by cutting-off a portion of the part 2, for example in the form of a dart, to form a mitre joint. Restoration of the cut part can be easily achieved by supplying additional moulding material and so moulding-on material as to seal the cut. In such a case it is advisable to substitute for the internal air pressure one or more removable cores, of the kind described in the said Patent No. 2133107.

WHAT WE CLAIM IS:—

1. A method of shaping a composite sealing strip having a fixing part and a

sealing part of vulcanised elastomer having a tubular body and a sealing lip, comprising bending the strip to cause the lip to splay or spread, enclosing the bend in a complementary mould, applying heat, and supplying fluid elastomer to a cavity of the mould to cause it to become moulded onto the sealing lip to form an extension at the bend.

2. A method as claimed in Claim 1, in which the mould comprises a first mould part, a second mould part, an intermediate mould part between the first and second mould parts, and a contour plate between the intermediate mould part and the second mould part, the contour plate being engaged by the fixing part of the strip in its bent condition, and the cavity of the mould being defined by the first mould part, the intermediate mould part, and the sealing strip in the mould.

3. A method of shaping a sealing strip, substantially as herein described with reference to the accompanying drawings.

4. A sealing strip shaped according to the method substantially as herein described with reference to the accompanying drawings and as illustrated in Figs. 1 and 2 or Fig. 3 thereof.

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COMPLETE SPECIFICATION

2 SHEETS

*This drawing is a reproduction of
the Original on a reduced scale.*

Sheet 1

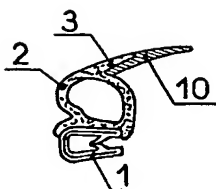


Fig 2

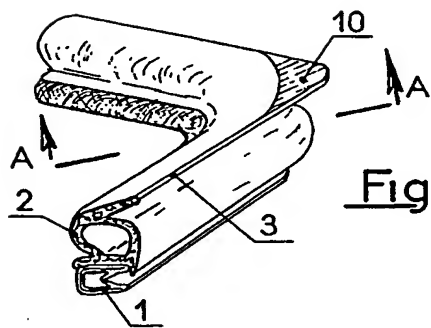


Fig 1

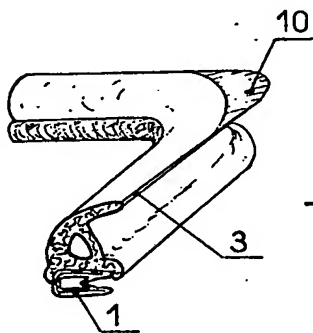


Fig 3

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Sheet 2

Fig 4

